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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,000	11/14/2003	Masami Tomita	245019US0	7355

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EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 11/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/707,000

Applicant(s)

TOMITA ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-22 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11/14/03; 2/17/04; 9/29/04
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

1. The examiner has considered only the material submitted by applicants, i.e., copies of the originally filed claims, abstract, and drawings of the US applications listed on the "List of related cases" in the Information Disclosure Statement (IDS) filed on Feb. 17, 2004. The examiner has considered the US application listed on the "List of related cases" in the IDS filed on Sep. 29, 2004.

2. The information disclosure statements filed on Nov. 14, 2003, and Aug. 17, 2004, do not fully comply with 37 CFR 1.98(a)(2)(iii), which requires legible copies of those portions of the copending U.S. applications which caused them to be listed.

Since the submission appears to be *bona fide*, applicants are given ONE (1) MONTH from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statements. The examiner notes that if applicants have a postcard receipts stating that the USPTO did receive copies of the documents, applicants should provide a copies of said receipts so that there is no ambiguity in the record that applicants did provide copies of the missing documents.

NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this

notice will result in the above mentioned information disclosure statements being placed in the application file with the noncomplying information not being considered. See 37 CFR 1.97(i).

3. The disclosure is objected to because of the following informalities:

(1) The use of trademarks, e.g. Henschel mixer [sic: HENSCHEL mixer] at page 63, line 13, has been noted in this application. The trademarks should be capitalized wherever they appear and be accompanied by the generic terminology. This example is not exhaustive. Applicants should review the entire specification for compliance.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

(2) The specification at page 56, line 17, states that "[I]n Fig. 1, an image forming apparatus 100 . . ." However, the drawing in Fig. 1 is that of a toner, not of an image forming apparatus.

Appropriate correction is required.

4. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

In claim 14, the recitation "wherein the modified polyester resin is prepared from the prepolymer during the dissolving or dispersing process and the second dispersing process" lacks antecedent basis in the specification. See page 7, lines 15-17, of the specification, which discloses that a "modified polyester resin having a urea bonding is prepared from the prepolymer during the dissolving or dispersing step and the second dispersing step" (emphasis added). The "modified polyester resin" recited in claim 14 is broader than the disclosed modified polyester resin because it includes modified polyester resins that do not have a "urea bonding," such as polyester resins modified by a grafted polyacrylate polymer.

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this

Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f), or (g) prior art under 35 U.S.C. 103(a).

8. Claims 21 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by US 5,430,526 (Ohkubo).

Ohkubo discloses an electrophotographic image forming apparatus that meets the structural components recited in instant claim 21. Fig. 1 and col. 2, line 56, to col. 3, line 56. The apparatus shown in Fig. 1 comprises an electrophotographic sensitive member 3, a developing unit 5, a transfer unit 7, and a cleaning unit 8. Ohkubo also discloses a process cartridge that meets the structural components recited in instant claim 22. Fig. 2 and col. 3, line 65, to col. 4, line 8. The process cartridge shown in Fig. 2 comprises the photosensitive member 4 and the developing device 5.

Ohkubo does not exemplify the particular toner recited in the instant claims. However, the instant claims do not positively recite that the apparatus and process cartridge comprise the particular toner. Instant claims 21 and 22 merely recites "a developing device configured to develop the electrostatic latent image with a developer including the toner according to claim 1 to form a toner image on the image bearing member" (emphasis added). The particular toner recited in the instant claim does not distinguish the structural elements in the instantly claimed apparatus and process cartridge from those in the apparatus and process cartridge in Ohkubo. A material

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(i.e., the toner) worked upon by the apparatus does not limit the apparatus claims. "Inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." See MPEP 2115. It is well settled, as stated in Ex parte Masham, 2 USPQ2d 1647, 1648 (Bd. Pat. App. & Int. 1987) that "a recitation with respect to the material intended to be worked upon by a claimed apparatus does not impose any structural limitations upon the claimed apparatus which differentiates it from the prior art apparatus satisfying the structural limitations of that claimed." Accordingly, the particular toner recited in the instant claim does not distinguish the instantly claimed apparatus and process cartridge from the apparatus and process cartridge disclosed by Ohkubo.

9. US 2003/0152859 A1 (Emoto'859) was published on Aug. 14, 2003, and has an effective filing date of Nov. 4, 2002. The inventive entity of Emoto'859 is not the same as the instant application. Accordingly, Emoto'859 qualifies as prior art under 35 U.S.C. 102(a) and under 35 U.S.C. 102(e).



10. Claims 1-4, 9, and 12-21 are rejected under 35

U.S.C. 102(a) as anticipated by or, in the alternative, under 35

U.S.C. 103(a) as obvious over US 2003/015289 A1 (Emoto'859).

Claims 1-4, 9, and 12-21 are rejected under 35

U.S.C. 102(e) as anticipated by or, in the alternative, under 35

U.S.C. 103(a) as obvious over US 2003/015289 A1 (Emoto'859).

Emoto'859 discloses a toner that comprises toner particles. The toner particles comprise a binder resin and a colorant. The binder resin comprises a modified polyester resin and an unmodified polyester in a weight ratio of about 15.3 to 63.6, which is within the ratio range of 5/95 to 80/20 recited in instant claim 15. See example 3 at page 12. The toner particles further comprise a charge control agent fixed on the surface of the toner particles in an amount of 0.25 parts by weight per 100 parts by weight of toner particles, and externally added hydrophobic silica and titanium oxide. Paragraphs 0129-0130 and paragraph 0142, lines 15-17. The binder resin has a peak molecular weight of 7,500, which is within the molecular weight range of 1,000 to 10,000 recited in instant claim 16. See Table 1 at page 14, example 3. The toner has a glass transition temperature  $T_g$  of  $59^\circ$ , which is within the  $T_g$  range recited in instant claim 17. Table 1, example 3. The toner particles meet the compositional limitations recited in

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instant claims 1-3, 12, and 15-19. The toner particles are obtained by process steps that meet the steps recited in instant claims 13 and 14. See example 3. The toner has a SF-2 of 120 which is within the range of 100 to 190 recited in instant claim 9. Table 2 at page 14, example 3. The toner has a spindle form and a volume average particle size of 4.9  $\mu\text{m}$ . Paragraph 0142, lines 14-15, and Table 2, example 3. The spindle form and volume average particle size meet the form and particle size limitations recited in instant claim 4.

Emoto'859 further discloses that the toner can be used in a developer comprising a carrier. Paragraph 0114. Emoto'859 also discloses an imaging apparatus comprising the structural components recited in instant claim 21. Fig. 1, and paragraph 0117.

Emoto'859 does not recite that the toner has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner disclosed by Emoto'859 has a spindle form that meets the shape limitation recited in instant claim 4. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction. Namely, the toner rolls while its major axis . . .

is a rotation axis." Thus, it is reasonable to presume that the toner disclosed in Emoto'859 has the property recited in instant claim 1. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

11. Claims 1-3, 11, and 20 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 5,328,795 (Yamashiro).

Yamashiro discloses a developer comprising a carrier and a toner comprising toner particles and a charge control agent fixed on the surface of the toner particles in an amount of 0.3 parts by weight per 100 parts by weight of the toner particles. See Example 1 at col. 25, and col. 26, lines 23-33. The toner has a chargeability of  $-29 \mu\text{C/g}$  with a half width of the charge quantity distribution of  $1.0 \text{ femtoC}/\mu\text{m}$ . See Table 3 at col. 26, example 1. The developer meets the compositional limitations recited in instant claims 1-3 and 20. The charge quantity and half-width of the charge distribution meet the limitations recited in instant claim 11.

Yamashiro does not recite that the toner has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-

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dimensional plane" as recited in instant claim 1. However, Yamashiro discloses that the spherical toner in example 1 is deformed by crushing to have a "deforming ratio" of 0.8. See Table 3 at col. 26, example 1. The deforming ratio is defined as the ratio of the minor axis to the major axis of the toner particles. Col. 14, lines 50-53. Thus, because the toner particles disclosed by Yamashiro have a minor axis and a major axis, it is reasonable to presume that the toner disclosed by Yamashiro has the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

12. Claims 1 and 18-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Japanese Patent 2000-172005 (JP'005). See the Japanese Patent Office machine-assisted translation of JP'005 for cites.

JP'005 discloses a developer comprising a carrier and a toner comprising toner particles. The toner particles comprise a binder resin and a colorant, and externally added hydrophobic silica particles. The toner particles have a volume average particle size of 6.9  $\mu\text{m}$ . Translation, the example in paragraphs 0071-0081, and Table 3, example 1. The developer meets the compositional limitations recited in instant claims 1

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and 18-20. JP'005 further discloses an image forming apparatus that meets the structural limitations recited in instant claim 21. Translation, paragraph 0059-006; and JP'005, Figs. 1-3.

JP'005 does not recite that the toner has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, JP'005 discloses that the toner is elliptically shaped and has an ellipticity of 0.61-0.72, where the ellipticity is defined as the ratio of the minor axis diameter of the ellipse to the major axis diameter of the ellipse. Translation, 0011, and Table 3, example 1. Thus, because the toner particles disclosed by JP'005 have a minor axis and a major axis, it is reasonable to presume that the toner disclosed by JP'005 has the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. The following are provisional obviousness-type double patenting rejections because the conflicting claims have not in fact been patented.

15. Claims 1, 4, 12-14, and 21 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6, 8-13, 19, and 20 of copending Application No. 10/286,816 (Application'816).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'816 render obvious the toner and apparatus recited in the instant claims.

Reference claim 4, which depends from reference claim 1, recites a toner comprising a modified polyester resin as the binder resin and a colorant, wherein the toner has a spindle form. The spindle form meets the toner form limitation recited in instant claim 4. The toner meets the compositional

limitations recited in instant claims 1 and 12. Reference claim 5, which depends from reference claim 1, requires that the toner have a volume average particle size ranging from 3.0 to 7.0  $\mu\text{m}$ , which meets the particle size range recited in instant claim 4.

Application'150 does not recite that the toner recited in reference claim 4 has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner recited in reference claim 4 has a spindle form that meets the spindle limitation recited in instant claim 4, which depend from instant claim 1. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner recited in reference claim 4 has the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Reference claim 19, which depends from reference claim 1, recites an image forming apparatus that meets the structural limitations recited in instant claim 21. The image developer recited in reference claim 19 is configured to develop the

electrostatic latent image with the toner as recited in reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'816, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner and an image forming apparatus that are capable of providing toned images in an electrophotographic process.

Instant claims 13 and 14 are written in product-by-process format. The claims in Application'816 do not recite that the toner is obtained by the process steps recited in instant claims 13 and 14. However, as discussed supra, the toner recited in the claims of Application'816 meets the toner limitations recited in instant claim 12, from which claims 13 and 14 depend. Thus, it appears that the toner recited in the claims of Application'816 is the same or substantially the same as the toner made by the process limitations recited in the instant claims. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983) and In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985). MPEP 2113.



16. Claims 1, 4, 5, 12-15, 18, and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-24 and 27. copending Application No. 10/670,320 (Application'320).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'320 render obvious the toner recited in the instant claims.

Reference claim 13, which depends from reference claim 1, recites a toner comprising a modified polyester resin, a second resin, and a colorant, wherein the toner has a spindle form. The spindle form meets the toner form limitation recited in instant claim 4. The toner is obtained by process steps that meet the steps recited in instant claim 13. The toner meets the compositional limitations recited in instant claims 1 and 12. Reference claim 14, which depends on reference claim 13, recites that the toner particle has a average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the ratios recited in instant claim 5. Reference claim 14 does not explicitly recite that  $r_3 \leq r_2 < r_1$ . However, because the ratio  $r_2/r_1 \leq 0.8$  and the ratio  $r_3/r_2 \leq 1.0$ , then  $r_3 \leq r_2$  and  $r_2 < r_1$ . Thus, the parameters recited in reference claim 14 meet the limitation

that  $r_3 \leq r_2 < r_1$ . Reference claim 17, which depends from reference claim 1, requires that the toner have a volume average particle size ranging from 3 to 7  $\mu\text{m}$ , which meets the particle size range recited in instant claim 4.

Application'320 does not recite that the toner recited in reference claims 13 and 14 has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner recited in reference claims 13 and 14 has a spindle form that meets the spindle limitation recited in instant claims 4 and 5, which depend from instant claim 1. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner recited in reference claims 13 and 14 has the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Reference claim 8, which depends from reference claim 1, further requires that the second resin is an unmodified polyester resin present in a weight ratio that meets the weight ratio range recited in instant claim 15. Reference claim 23, which depends on reference claim 1, requires that the toner

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further comprise an external additive present on the surface of the toner particles, which meets the compositional limitation recited in instant claim 18. Reference claim 27, which depends from reference claim 1, recites a developer comprising a carrier and the toner according to reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'320, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner and a developer that are capable of providing toned images in an electrophotographic process.

Instant claim 14 is written in product-by-process format. The claims in Application'320 do not recite that the toner is obtained by the process steps recited in instant claim 14. However, as discussed supra, the toner recited in the claims of Application'320 meets the toner limitations recited in instant claim 12, from which instant claim 14 depend. Thus, it appears that the toner recited in the claim of Application'816 is the same or substantially the same as the toner made by the process limitations recited in instant claim 14. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra. MPEP 2113.

17. Claims 1, 4-9, 21, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8-14 of copending Application No. 10/849,857 (Application'857).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'857 render obvious the toner, the apparatus, and the process cartridge recited in the instant claims.

Reference claim 8 recites a toner comprising a binder resin and a colorant. The toner has a spindle form and has a volume average particle size of 3 to 8  $\mu\text{m}$ , which meet the toner shape and size limitations recited in instant claim 4. The toner has an average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the relationships recited in instant claim 5. Reference claims 9 through 11, which depend on reference claim 8, further recite that the parameters  $r_1$ ,  $r_2$ , and  $r_3$  meet the  $r_1$ ,  $r_2$ , and  $r_3$  limitations recited in instant claims 6 through 8, respectively. Reference claim 12, which depends on reference claim 8, further requires that the toner have an average form

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factor SF-2 of 100 to 190, which meets the SF-2 value recited in instant claim 9.

Reference claims 13 and 14 recite an image forming apparatus and a process cartridge, respectively, that meet the structural limitations recited in instant claims 21 and 22, respectively. The developing devices recited in reference claims 13 and 14 are configured to develop the electrostatic latent image with a developer comprising the toner recited in reference claim 8.

Application '857 does not recite that the toner recited in reference claims 8-12 has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner recited in reference claims 8-12 has a spindle form that meets the limitations recited in instant claims 4-8, which depend from instant claim 1. The instant specification at page 15, lines 13-15, discloses that a "toner having a spindle form easily rolls in only one direction. Namely, the toner rolls while its major axis . . . is a rotation axis." Thus, it is reasonable to presume that the toner recited in reference claims 8-12 has the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'857, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully of obtaining a toner, an image forming apparatus, a process cartridge that are capable of providing toned images in an electrophotographic process.

18. Claims 1, 4, 5, 9, 18, 21, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-16 of copending Application No. 10/820,726 (Application'726).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'726 render obvious the toner, the apparatus, and the process cartridge recited in the instant claims.

Reference claim 12, which depends on reference claim 1, recites an image forming apparatus that meets the structural components recited in instant claim 21. Reference claim 12 further recites a toner having spindle shaped toner particles that have an average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ ,

which satisfy the relationships recited in instant claim 5. Reference claim 10, which depends from reference claim 1, further requires that the toner have a volume average particle size of 3 to 8  $\mu\text{m}$ , which meet the toner size limitation recited in instant claim 4. Reference claim 13, which depends on reference claim 1, requires that the toner comprise a polyester prepolymer, a polyester, and a colorant, which meets the compositional limitations recited in instant claim 1. Reference claim 11, which depends from reference claim 1, requires that the toner have an average form factor SF-2 of 100 to 180, which meets the SF-2 value recited in instant claim 9. Reference claim 14, which depends on reference claim 1, requires that the toner include at least one of silica and titania, which meets the compositional limitation recited in instant claim 18. Reference claim 15 recites a process cartridge that meet the structural limitations recited in instant claim 22.

Application'726 does not recite that the toner recited in reference claim 12 has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner recited in reference claim 12 has a spindle form that meets the limitations recited in instant claims 4 and 5, which depend from

instant claim 1. The instant specification at page 15, lines 13-15, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner recited in reference claims 12 has the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'726, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner, an image forming apparatus, a process cartridge that are capable of providing toned images in an electrophotographic process.

19. Claims 1, 2, 4, 5, 12-19, and 22 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-18 and 23, of copending Application No. 10/760,452 (Application'452).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'452 render obvious the toner and the process cartridge recited in the instant claims.



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Reference claim 16, which depends from reference claim 1, recites a toner comprising toner particles comprising a binder resin and a colorant, and particles of a charge control agent and an external additive on the surface of the toner particles, wherein the toner particles have a spindle form. The spindle form meets the toner form limitation recited in instant claim 4. The toner meets the compositional limitations recited in instant claims 1, 2, and 17. Reference claim 17, which depends on reference claim 16, recites that the toner particle has a average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the ratios recited in instant claim 5. Reference claim 17 does not explicitly recite that  $r_3 \leq r_2 < r_1$ . However, because the ratio  $r_2/r_1 \leq 0.8$  and the ratio  $r_3/r_2 \leq 1.0$ , then  $r_3 \leq r_2$  and  $r_2 < r_1$ . Thus, the parameters recited in reference claim 17 meet the limitation that  $r_3 \leq r_2 < r_1$ . Reference claim 14, which depends on reference claim 1, requires that the toner have a volume average particle size of 3.0 to 8.0  $\mu\text{m}$ , which meets the toner particle size limitation recited in instant claim 4.

Application'452 does not recite that the toner recited in reference claims 16 and 17 has "such a rolling property as to relatively easily roll in one direction compared to other

directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner particles recited in reference claims 16 and 17 have a spindle form that meets the spindle limitations recited in instant claims 4 and 5, which depend from instant claim 1. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner particles recited in reference claims 16 and 17 have the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Reference claim 11, which depend from reference claim 8, which depends in turn from reference claim 1, requires that the binder resin comprise a modified polyester and an un-modified polyester in a weight ratio of 5:95 to 80:20, which meets the binder compositional limitations recited in instant claims 12 and 15. Reference claims 12 and 13, which depend from reference claim 8, recite that the toner is obtained by process steps that meet the process steps recited in instant claims 13 and 14. Reference claim 12, which depends from reference claim 8, further requires that the binder resin have a peak molecular weight of from 1,000 to 10,000, which meets the binder limitation recited in instant claim 16. Reference claim 13,

which depends from reference claim 8, requires that the toner have a glass transition temperature  $T_g$  of 40 to 70°C, which meets the  $T_g$  range recited in instant claim 17. Reference claim 18, which depends from reference claim 1, requires that the external additive be either hydrophobized silica or hydrophobized titanium oxide, which meets the external additive limitation recited in instant claim 19.

Reference claim 23 recites a process cartridge, respectively, that meets the structural limitations recited in instant claim 22. The developing device recited in reference claim 23 is configured to develop the electrostatic latent image with a developer comprising the toner as recited in reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'452, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner and a process cartridge that are capable of providing toned images in an electrophotographic process.

20. Claims 1, 4, 5, 12-16, 20, and 22 are provisionally rejected under the judicially created doctrine of obviousness-

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type double patenting as being unpatentable over claims 1-11, 13, 14, and 17, of copending Application No. 10/724,150 (Application'150).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'150 render obvious the toner and the process cartridge recited in the instant claims.

Reference claim 9, which depends from reference claim 1, recites a toner comprising a modified polyester resin as the binder resin and a colorant, wherein the toner has a spindle form and a volume average particle size of 3 to 7  $\mu\text{m}$ . The toner is obtained by process steps that meet the process steps recited in instant claim 13. The spindle form and particle size meet the toner form and particle size limitations recited in instant claim 4. The toner meets the compositional limitations recited in instant claims 1 and 12. Reference claim 10, which depends on reference claim 9, recites that the toner particle has a average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the ratios recited in instant claim 5. Reference claim 10 does not explicitly recite that  $r_3 \leq r_2 < r_1$ . However, because the ratio  $r_2/r_1 \leq 0.8$  and the ratio  $r_3/r_2 \leq 1.0$ , then

$r_3 \leq r_2$  and  $r_2 < r_1$ . Thus, the parameters recited in reference claim 10 meet the limitation that  $r_3 \leq r_2 < r_1$ .

Application'150 does not recite that the toner recited in reference claims 9 and 10 has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner recited in reference claims 9 and 10 has a spindle form that meets the spindle limitations recited in instant claims 4 and 5, which depend from instant claim 1. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner recited in reference claims 9 and 10 have the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Reference claim 2, which depend from reference claim 1, further requires that the toner be obtained by process steps that meet the process steps recited in instant claim 15. Reference claim 5, which depends from reference claim 1, further requires that the binder resin comprise the modified polyester and a un-modified polyester in a weight ratio of 5:95 to 80:20, which meets the binder compositional limitations recited in

instant claim 15. Reference claim 7, which depends from reference claim 5, further requires that the binder resin have a peak molecular weight of from 1,000 to 10,000, which meets the binder limitation recited in instant claim 16. Reference claim 14, which depends on reference claim 13, which in turn depends on reference claim 1, recites a developer comprising a carrier and the toner recited in reference claim 1.

Reference claim 17 recites a process cartridge that meets the structural limitations recited in instant claim 22. The developing device recited in reference claim 17 is configured to develop the electrostatic latent image with a developer comprising the toner as recited in reference claim 13, which in turn depends on reference claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'150, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner, a developer, and a process cartridge that are capable of providing toned images in an electrophotographic process.

21. Claims 1, 4, 5, 12-14, and 20 are provisionally rejected under the judicially created doctrine of obviousness-type double

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patenting as being unpatentable over claims 1-15, of copending Application No. 10/724,260 (Application'260).

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter recited in the claims of Application'260 render obvious the toner recited in the instant claims.

Reference claim 13, which depends from reference claim 1, recites a toner comprising a first binder resin, a second binder resin, and a colorant, wherein the toner has a spindle form. The spindle form meets the toner form recited in instant claim 4. The toner meets the compositional limitations recited in instant claims 1 and 12. Reference claim 14, which depends on reference claim 13, recites that the toner particle has a average major axis particle diameter  $r_1$ , an average minor axis particle diameter  $r_2$ , and an average thickness  $r_3$ , which satisfy the ratios recited in instant claim 5. Reference claim 14 does not explicitly recite that  $r_3 \leq r_2 < r_1$ . However, because the ratio  $r_2/r_1 \leq 0.8$  and the ratio  $r_3/r_2 \leq 1.0$ , then  $r_3 \leq r_2$  and  $r_2 < r_1$ . Thus, the parameters recited in reference claim 14 meet the limitation that  $r_3 \leq r_2 < r_1$ . Reference claim 6, which depends on reference claim 1, requires that the toner have a

volume average particle size of 4 to 7  $\mu\text{m}$ , which is within the particle size range of 3 to 8  $\mu\text{m}$  recited in instant claim 4.

Application'260 does not recite that the toner recited in reference claims 13 and 14 has "such a rolling property as to relatively easily roll in one direction compared to other directions when the toner is present on a two-dimensional plane" as recited in instant claim 1. However, as discussed above, the toner recited in reference claims 13 and 14 has a spindle form that meets the spindle limitations recited in instant claims 4 and 5, which depend from instant claim 1. The instant specification at page 15, lines 13-14, discloses that a "toner having a spindle form easily rolls in only one direction." Thus, it is reasonable to presume that the toner recited in reference claims 13 and 14 have the property recited in instant claim 1. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Reference claim 5, which depend from reference claim 1, further requires that the second binder resin be a modified polyester resin that meets the binder limitation recited in instant claim 12. Reference claim 15, which depends on reference claim 1, recites a developer comprising a carrier and the toner recited in reference claim 1.



It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in Application'260, to make and use a toner as recited in the instant claims, because that person would have had a reasonable expectation of successfully obtaining a toner and a developer that are capable of providing toned images in an electrophotographic process.

Instant claims 13 and 14 are written in product-by-process format. The claims in Application'260 do not recite that the toner is obtained by the process steps recited in instant claims 13 and 14. However, as discussed supra, the toner recited in the claims of Application'260 meets the toner limitations recited in instant claim 12, from which claims 13 and 14 depend. Thus, it appears that the toner recited in the claims of Application'260 is the same or substantially the same as the toner made by the process limitations recited in the instant claims. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; MPEP 2113.

22. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record does not teach or suggest toner particles having "projection . . . present on an end portion of the particles in the major axis direction" as recited in instant claim 10.

For example, as discussed supra, Emoto'859 teaches a toner that comprises toner particles that have a spindle form that meets the toner form limitation recited in instant claim 4. However, Emoto'859 does not teach or suggest that the its toner particles have such a "projection" as recited in instant claim 10. Nor is there enough evidence on the present record for a person having ordinary skill in the art to reasonably conclude that the toner particles of Emoto'859 have such a "projection."

23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system,

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see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

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